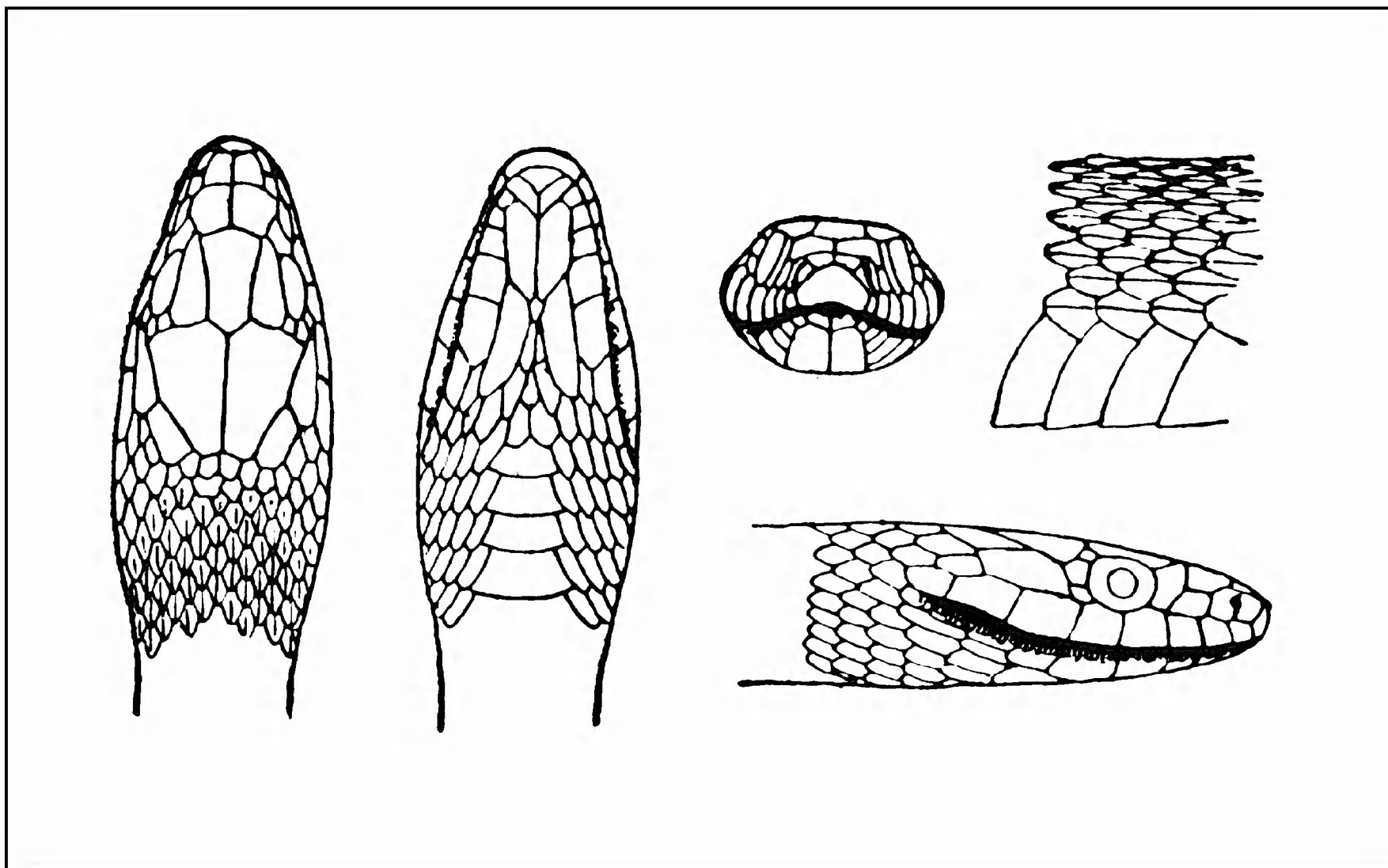

BULLETIN

of the

Chicago Herpetological Society



Volume 38, Number 3
March 2003



BULLETIN OF THE CHICAGO HERPETOLOGICAL SOCIETY

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Cover: *Eutaenia* (= *Thamnophis*) *angustirostris* Kennicott. Drawing from “The Crocodilians, Lizards, and Snakes of North America” by Edward Drinker Cope, 1900, Part II of the Annual Report of the U.S. National Museum for the Year Ending June 30, 1898. This name, for many years applied to the species currently known as *Thamnophis rufipunctatus*, is now a *nomen dubium*. The type specimen cannot be identified with any recognized taxon.

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The Bulletin of the Chicago Herpetological Society (ISSN 0009-3564) is published monthly by the Chicago Herpetological Society, 2430 N. Cannon Drive, Chicago IL 60614. Periodicals postage paid at Chicago IL. **Postmaster:** Send address changes to: Chicago Herpetological Society, Membership Secretary, 2430 N. Cannon Drive, Chicago IL 60614.

Herpetofauna at Drago Cabin, 10-Mile Lake, Minnesota

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What I am calling Drago Cabin is a small log cabin on a 0.25-acre hilltop on the eastern shore of 10-Mile Lake, Minnesota, about 4 miles north of the town of Hackensack. This area is near the western extent of the northern mixed conifer-hardwood forest. The main cabin was built in 1916 and is presently owned by Esther and Bill Drago of Marion, Iowa. The cabin has received minor modification over the ensuing years and an additional cabin was added in the 1940s. Therefore, this small area has had little disturbance for about 60 years.

The hill on which the cabin sits is margined to the north and south by lowlands which once held wetlands. The pond on the property to the south of the Drago cabin was in good condition at least until 2001. A pond on the property to the north was apparently drained in the 1990s and filled with cast-off cabin furnishings. Much of the remaining lakeshore has been heavily disturbed since the late 1980s and continuing to the present with the construction of large all-weather homes, boat and automobile garages, and extensive docks. Along the entire eastern shore of 10-Mile Lake the second-growth forest is highly fragmented. The Drago cabin land has probably received the least disturbance anywhere on the eastern shore of the lake.

I first observed the herpetofauna of the Drago cabin grounds in early August 1999. That was a dry year in north-central Minnesota and no rain fell during the observation period. During that time I observed three adult (5 cm) gray treefrogs (probably *Hyla versicolor*), one of which had taken up residence inside of the 1916 cabin where it appeared on three consecutive nights. On the grounds outside the cabin I observed a small number (approx. 0.25/m²) of adult (5 cm) wood frogs (*Rana sylvatica*). In the rocks bordering a trail to the cabin's boat dock and in rocks marking the lakeshore, I observed a small number (approx. 0.10/m²) of adult (10 cm snout-vent length [SVL]) prairie skinks (*Eumeces septentrionalis*) and only one juvenile (7 cm SVL). I observed a single, recently killed juvenile common garter snake (*Thamnophis sirtalis sirtalis*) in the roadway leading to the cabin grounds, which also provides access to other cabin grounds on the

eastern shoreline of the lake.

I visited the cabin grounds again in August 2001. During this 7-day observation period rain fell on three consecutive days. I observed dozens (approx. 2.0/m²) 2.5 cm, perhaps recently metamorphosed, wood frogs, but no adults. Prairie skinks were also abundant in 2001. I observed approximately ten juveniles and probably five or more adults. No gray treefrogs were observed in 2001.

New sightings for 2001 included one northern spring peeper (*Pseudacris crucifer crucifer*), one adult (15 cm) red-bellied snake (*Storeria occipitomaculata*) beneath the 1916 cabin's porch and a juvenile (11 cm) among the trailside rocks that also served as cover for the juvenile prairie skinks. I observed one adult (10 cm) blue-spotted salamander (*Ambystoma laterale*) on the east side of the 1940 cabin beneath the second floor external stairs under a small piece of fallen, painted wood. Reports from Quentin and Mike Stark and Will Drago, who closed the cabin in early October, indicated that blue-spotted salamanders inhabit the on-site well. The differences in species richness and apparent density may represent several aspects of ecological change in the area. Spring peepers have been reported to be tolerant of forest fragmentation in Connecticut (Gibbs, 1998), but have been eliminated from areas of Minnesota by urbanization (Oldfield and Moriarty, 1994). The increased reproduction of prairie skinks and presence of a young red-bellied snake indicates that the Drago cabin grounds provide adequate prey and cover and the presence of a large number of young wood frogs indicates that one nearby breeding pond was still intact at that time. The blue-spotted salamander surfaced due to the rainfall in August. Blue-spotted salamanders may not decline due to fragmentation but seem to occur in low density in Maine (Demaynadier and Hunter, 1998).

No opportunity to observe the herpetofauna arose in 2002. But in a one-day visit, I observed the neighbors to the south involved in a massive construction project. I plan to visit the Drago cabin in 2003 to observe any discernible effects of the progressive habitat destruction.

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The Checkered Nomenclatural History of the Narrow-headed Garter Snake, *Thamnophis rufipunctatus* (Cope)

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Abstract

The 22 names, name combinations and spelling variants applied to *Thamnophis rufipunctatus* are reviewed.

Perhaps the most intriguing western garter snake is the red-spotted or narrow-headed or narrow-snouted or narrow-muzzled (Rossman, 1996) species now known as *Thamnophis rufipunctatus* (Cope, 1875). It is unusual in having very little or no evidence of stripes; instead it has several longitudinal rows of small, reddish brown, black-bordered spots on a usually dark brown background, occasionally light. In very dark specimens the pattern is difficult to discern, and in preservative the red is lost.

As many as 8% have the anal entire—a condition normal in *Nerodia* but rare in *Thamnophis* except in *T. validus*. Its loreal scale is proportionately longer and narrower than in any other garter snake, reflecting its conspicuously long, narrow snout. It lives in remote mountainous areas about streams, feeds on fish, and is difficult to keep in captivity.

The species has been intriguing enough to have been placed in eight nominal genera (*Atomarchus*, *Chilopoma*, *Eutaenia*, *Natrix*, *Nerodia*, *Stypocemus*, *Thamnophis*, *Tropidonotus*), three of which are monotypic (*Aromarchus*, *Chilopoma*, *Stypocemus*). The species has also borne six different species-group names (*angustirostris*, *multimaculatus*, *multi-punctatus*, *rufipunctatus*, *rufopunctatus*, *vagrans*), only one of which is an erroneous spelling. Only four actually refer to today's *T. rufipunctatus*. Thus it is not surprising that 22 different name combinations have appeared in the literature—an exceptionally convoluted history of nomenclature.

Tanner (1990) gave a glimpse of that history, with eight entries, but we here review the first use of 22 combinations and spellings for each of the species-group names that have been applied to the taxon. The sequence is chronological for each name, and chronological under each name. Citation hereinafter to articles (Art.) refer to the 1999 edition of the International Code of Zoological Nomenclature.

angustirostris variants

1. ***Eutaenia angustirostris***: Kennicott (1860: 332). Few if any species-group names in *Thamnophis* have been of such varied application as this. Cope in Yarrow (1875), and Cope (1900) accepted the name as valid. Yarrow (1883) placed it with the *elegans* group of *Thamnophis*, as *Eutaenia vagrans angustirostris*. Boulenger (1893) took it as a synonym of the “variety” *hammondii* of *Tropidonotus ordinatus*. Ruthven (1908) recognized it as a valid species, but was the first to apply it to the species now known as *T. rufipunctatus*; he also included *multimaculatus* as a synonym. *T. rufipunctatus* of

today was generally known, following Ruthven, as *angustirostris* for some 70 years—much longer than the general acceptance of *rufipunctatus* that was promoted by Collins et al. (1978).

Taylor and Knobloch (1940) rejected Ruthven's allocation of *angustirostris*, regarding it as a separate species. At the same time they used *multimaculatus* for the species now known as *rufipunctatus*, but did not indicate to what the latter name, senior to *multimaculatus*, might apply.

Smith (1942) revived *rufipunctatus*, regarding the type of *angustirostris* as a hybrid between *melanogaster* and *rufipunctatus*, and therefore unavailable as a valid name for any taxon (Art. 1.3.3). However, if that were the case, the type locality of Parras, Coahuila, would have to be in error, for neither species is known from that vicinity. Schmidt (1953) rejected the hybrid hypothesis as preventing use of *angustirostris* for *rufipunctatus*, and therefore continued with the former name.

Finally, Rossman (1996) concluded that the type of *angustirostris* is unidentifiable with any known taxon. As a *nomen dubium* it remains in limbo taxonomically until the type is replaced by an identifiable neotype (Art. 75.5) or is convincingly identified with some recognizable species.

In reality the name probably belongs to some as yet unknown species, as could be inferred from Rossman's (1996) comments. There is no sound reason to reject Parras, which has not been sampled thoroughly, as the type locality. Thompson (1957) collected *marcianus* there, of which he concluded that *angustirostris* is a junior synonym. Rossman (1996) firmly rejected that hypothesis. A local relict species, to which the name applies, may occur in that vicinity. Two other relict species, with very restricted ranges, are already known in northern Mexico (*T. exsul*, *T. mendax*).

It should be noted, in passing, that Rossman (1996: 244) at least once used the misspelling *augustirostris*; it was obviously a lapsus without nomenclatural standing, not used as a valid name (as on the contrary was *Thamnophis rufipunctata*, q.v.) (M. Dloogatch, pers. com.).

2. ***Eutaenia vagrans angustirostris***: Yarrow (1883).

3. ***Thamnophis angustirostris***: Ruthven (1908).

4. ***Natrix angustirostris***: Lowe (1955).

rufipunctatus variants

5. ***Chilopoma rufipunctatum***: Cope in Yarrow (1875: 544).

This is the earliest species-group name definitely applicable to the species now known as *Thamnophis rufipunctatus*. It was not generally used as valid for over 100 years after it was proposed. It was revived by Smith (1942), but general acceptance did not come until about the time of Collins et al. (1978). From 1875 to 1908 — 33 years — the accepted species-group name was *rufopunctatus*. From 1908 to about 1978 — 70 years — it was generally known by the species-group name of *angustirostris*. The current species-group name has generally been used for only some 25 years, since about 1978.

6. *Stypocemus [rufipunctatus]*: Cope (1885). Cope still thought at this time that the species was generically separate from *Eutaenia*. A new name was proposed because *Chilopoma* was preoccupied. Only the generic names were cited; the nominal species *rufipunctatus* was not mentioned. We therefore here use the implied original spelling, although by that time Cope had adopted the spelling *rufopunctatus* (q.v.) in other works.

7. *Thamnophis rufipunctatus*: Smith (1942). This was the first revival of *rufipunctatus* as a valid name for its species, and also the first valid use in *Thamnophis*. See discussion under *angustirostris* and *Chilopoma rufipunctatum*.

8. *Natrix rufipunctatus*: Lowe (1964). Lowe's combination was based on Lowe (1955), in which *angustirostris* (of which *rufipunctatus* was then considered a synonym) was argued as belonging in *Natrix* (now *Nerodia*).

9. *Thamnophis rufipunctata*: Collins et al. (1978). This work was the first of the several influential checklists of the North American herpetofauna to adopt this name, thereby establishing its wide acceptance. The inadvertent misspelling was adopted in but few works; at least one accepted it (Ballinger and Lynch, 1983).

10. *Thamnophis rufipunctatus rufipunctatus*: Tanner (1986). This combination was contingent upon the following proposal.

11. *Thamnophis rufipunctatus labialis*: Tanner (1986). Rossman (1986) provided data indicating that this subspecies is not valid.

12. *Nerodia (Thamnophis) rufipunctata*: Lawson (1987). The relationship of *Nerodia* and *Thamnophis* was documented convincingly, but they remain customarily regarded as separate genera. In practice the use of subgenera has not proved popular, largely because they are cumbersome.

13. *Nerodia rufipunctatus*: Chiasson and Lowe (1989). Comparative scale microepidermatoglyphics were shown to be similar in *rufipunctatus* and several *Nerodia* species. However, Blaney (1977) had earlier documented that a greater

range of variation in species of *Thamnophis* occurs than would justify allocation of *rufipunctatus* to *Nerodia* on such grounds (Rossman, 1996).

rufopunctatus variants

14. *Chilopoma rufopunctatum*: Coues (1875: 588). Cope's proposal of *Chilopoma rufipunctatum* was followed in the same volume by an article (Coues, 1875) emending the species name to *rufopunctatum*. That emendation was adopted by all subsequent authors, including Cope, Boulenger, Brown, Ditmars and others, as late as 1910. That usage ended about when Ruthven (1908) adopted *angustirostris* for the name of the species now known as *rufipunctatus*.

The connector vowel between Latin words in a scientific name ("rufus" and "punctatus" are both Latin) conventionally is "i," and that between Greek words is similarly "o." However, they are sometimes switched for the sake of euphony (Brown, 1956). We are aware of no compelling grammatical reason to switch from the original connector "i" to "o." Nevertheless the emendation was accepted for over 65 years. The two spellings, of Cope and Coues, are regarded as synonymous (Art. 37), and separately occupied (Art. 32.3).

15. *Eutaenia rufopunctata*: Cope (1892).

16. *Tropidonotus rufopunctatus*: Boulenger (1893).

multimaculatus variants

17. *Atomarchus multimaculatus*: Cope (1883: 1300). This nominal species was consistently regarded as different from *rufipunctatus* (under its various names) throughout its history of usage as valid. They were first regarded as synonyms of each other by Ruthven (1908), but both in turn as synonyms of *angustirostris*. Nevertheless, *multimaculatus* continued to be used, despite junior synonymy with *rufipunctatus*, as late as Taylor (1941) and Anderson (1965).

18. *Eutaenia multimaculata*: Cope (1892).

19. *Tropidonotus multimaculatus*: Boulenger (1893).

20. *Thamnophis multimaculata*: Taylor and Knobloch (1940).

21. *Thamnophis multimaculatus*: Taylor (1941).

22. *Thamnophis multi-punctatus*: Anderson (1965). The name is clearly "an incorrect subsequent spelling" (Art. 33.3) without nomenclatural status.

Acknowledgment

We are very grateful to Dr. Kraig Adler for aid with the literature.

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Morphology of the Tadpole of *Microhyla ornata*, with Notes on Its Feeding Ecology and Breeding Habits

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Abstract

External morphology of *Microhyla ornata* tadpole is described, with notes on its feeding ecology, and breeding and conservation.

Introduction

The wide ranging Southeast Asian tiny ant-frog, *Microhyla ornata* (snout-vent length 26–27 mm), was described as *Engystoma ornatum* from Malabar Coast, India, by Dumeril and Bibron in 1841. Probably because of its small size and the agility with which it takes refuge under vegetation, surface objects, or within holes and fissures in the ground, it long eluded herpetologists working on the herpetofauna of Pakistan (Boulenger, 1890; Darlington, 1957; Savage, 1973; Minton, 1962, 1966; Mertens, 1969). Moreover, it can readily be mistaken for a juvenile of some larger sympatric species (Figure 1).

In August 1963, I noticed two gelatinous patches floating on surface of a pond near Ghakkhar, District Gujranwala, Punjab, Pakistan. Several greenish-brown tiny round eggs were suspended in the gelatinous patch. They were much smaller than eggs of any known local amphibian (Khan, 1982b), and so were ignored as being snail eggs. After about a week, I noticed a school of transparent, silvery fishlike creatures swimming at the center of the same pond. As I approached, the school vanished, then soon reappeared as I stood looking for it. I quietly observed it for some time: compressed silver-shining body, horizontal slitlike anterodorsal mouth, laterally displaced eyes, and long, gracefully tapering, vibratile tail. It was all beauty to watch, as compared to drab, bulky sympatric ranoid tadpoles. The tadpoles were constantly gulping water, and kept always to the middle of the pond. I netted and preserved a few.



Figure 1. Adult *Microhyla ornata*, from Rabwah, Punjab, Pakistan. Upper = Female; Lower = Male.

Next year similar tadpoles were collected from a pond near Rabwah City, District Jhang, Pakistan, and their development was followed in the laboratory. The metamorphosed froglets were identified as *Oxyglossus lima* (Khan, 1968), which Dr. Mertens (1970) corrected to *Microhyla ornata*. The species was later found to be quite common in Pakistan, from Azad Kashmir, through North Western Frontier Province and Punjab (Khan,

1974, 1976, 1979; Khan and Tasnim, 1987). Recently another microhylid frog, *Uperodon systoma*, has been added to the faunal list of Pakistan (Baig and Gvozdk, 1998; Khan, 2002).

The present paper describes the morphology of the *Microhyla ornata* tadpole, with notes on its feeding habits and ecological adaptations.

Materials and Methods

Microhyla ornata is the most delicate of the riparian tadpoles occurring in the Punjab Plain, Pakistan. Netting the tadpoles at midpond at first appears to be easy, but as soon as the net is dipped in the water the tadpoles disappear. They can be tricked by remaining motionless while keeping the net dipped in the water. As the tadpoles reappear, the net can slowly be moved under them, and then lifted with a jerk. Care must be taken not to lift the net clear of the water; otherwise the tadpoles will stick to the net and may be damaged.

The netted tadpoles are transferred with a teapot sieve, and best preserved and stored in diluted Bouin's Fluid (Khan, 1991). The tadpoles' silvery shine soon disappears after preservation (Khan, 1982a, 1991).

Rearing *Microhyla ornata* tadpoles in the laboratory is a problem, as it is difficult to maintain sufficient planktonic growth in an aquarium. Mixing in corn or wheat flour does not help; rather it pollutes the water. The aquarium needs to be supplied regularly with pond water to provide plankton for the tadpoles to feed on.

Description

At Stage 35 (Khan, 1965) the *Microhyla ornata* tadpole reaches its largest size and is most active (Figure 2). Laterally compressed, streamlined, semitransparent body, dorsoventrally depressed flat head, and the presence of iridophores distinguish it from sympatric ranoid tadpoles (Rao, 1917). The horizontal oral slit has been carried anterodorsally on the head by the countersunk snout. The flat head is widest at the level of eyes. The eyes are prominent because of a nacreous black eyeball with a white pupil. Imperforate nares are indicated by a pair of heavily pigmented pits. The spiracle is squarish, median-ventral, and guarded by a valve. Melanophores cover the head, extending back on tail and fins. The tail is more than twice the length of the body, with a very gradual taper. Caudal

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muscles are thickest at the base, gradually tapering to the tail tip. The end of the tail is produced into a long, independently vibratile flagellum. The transparent caudal fins are widest at midtail, then abruptly slope posteriorly. On the flagellum they form a slight crest, joining together to form a round tip to the flagellum (Figure 2).

The hind limb consists of thigh, pes and toes, the fourth toe being longest. The cloacal tube is median, and is much narrower than that of sympatric ranoids. The tail-piece segment of the ventral fin is distinct.

Oral disc (Figure 3): Arched sheathless jaws are horizontally located on the snout dorsum, and are drawn into lateral pockets. A median U-shaped passage in the lower jaw remains visible even when the oral slit is closed. Keratinized parts of the oral disc — characteristic of ranoid tadpoles — are absent in microhylids (Khan and Mufti, 1994).

Measurements (at Stage 35, data from 10 tadpoles): Body length 5.2–5.8 mm; tail length (including flagellum) 12.6–13.7 mm; total length 17.8–18.9 mm; greatest breadth of body (at the level of eyes) 2.7–2.9 mm; greatest depth of body (at level of spiracle) 3.2–3.4 mm; interorbital space 2.3–2.4 mm; internarial space 0.5–1.95 mm; tail muscle height (at base) 1.7–2.0 mm; tail fin height (at midtail) 4–4.4 mm; length of flagellum 2.0–2.3 mm.

Feeding habits: The non-suctorial, nektic microhylid tadpole is a microphagous suspension feeder. It constantly gulps in water, which carries plankton particles into its buccopharyngeal cavity, where an array of papillae and membranes guide the current toward special glandular secretory surfaces. The water-suspended particles are trapped in mucus and exclusively constitute the tadpole's food (Khan, 1991, 2001).

Natural history: The tiny ant-frog, *Microhyla ornata*, is an agile, elegant frog. Because of its small size it easily hides under stones, logs, heaps of vegetation, fissures, holes etc. It emerges at dusk, moves about in the grass, and feeds on ants and other small, soft-bodied insects.

Its breeding preferences contrast sharply with sympatric ranoids. It prefers deep permanent and semi-permanent ponds for breeding, with lots of vegetation around. Such ponds are restricted to well established wetlands in temperate Punjab.

The male waits until mid-monsoon season, when ponds hold enough water and are rich in plankton. A solitary male perches well away from the water, sits in a depression at the root of grasses, and calls, the immediate trigger for calling being a heavy downpour. The croak is a characteristic, loud, rasping

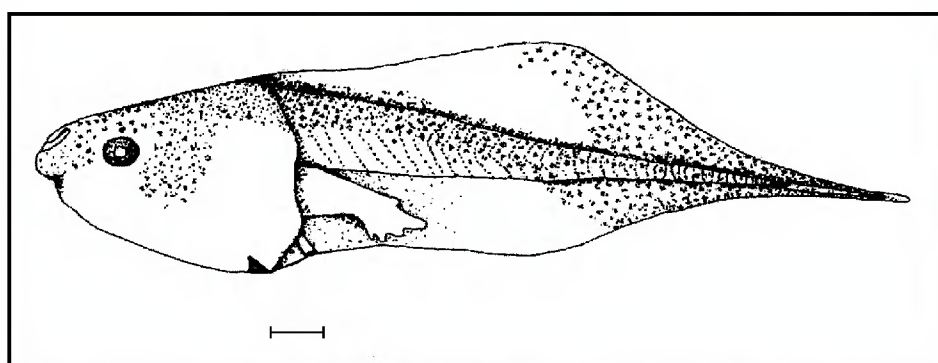


Figure 2. *Microhyla ornata* tadpole at Stage 35, (scale = 1 mm).

call “Brrrat, Brrrat, Brrrat,” in outbursts of astonishing volume considering the small size of the frog, repeated six to eight times. It is difficult to locate the croaking frog, though it may be sitting just under your nose, because of the ventriloquial character of the call (Khan and Malik, 1987). A pattern of lulls and resumptions in croaking follows cues received from nearby sympatric calling frogs. How a female locates her mate, mode of pairing and ovulation, are as yet unsolved questions. It all probably happens in the late hours of the night, because next morning several “egg rafts” with greenish-brown gel-embedded tiny eggs (diameter 0.5–0.7 mm) are seen floating midpond. The egg rafts get stuck to grass blades, away from the margins of the pond. Within two to three days tiny greenish-brown larvae are observed wriggling in the jelly; these soon free themselves and form midpond schools.

Nektic adaptations: Microhylid tadpoles are Type 2 in Orton's (1953) classification, while ranoids are Type 4. *Microhyla ornata* is the only tadpole in the Punjab riparian ecosystem that occupies its unique midwater nektic-lentic microphagous niche. Sympatric ranoids are benthic macrophagous grazers; in no way do they compete with the microhylid for food, development and space (Khan, 1991, 2001).

Morphological characteristics suiting the *M. ornata* tadpole for its midwater niche are: streamlined transparent body; broad-finned, long tail; independently vibratile flagellum; lateral eyes; median ventral spiracle; and abdominal silver-shine. Transparency not only makes the tadpole invisible from the air, it reduces its shadow at pond bottom. While abdominal silver-shine blends it with the silvery appearance of the pond surface in reflected sunlight, hiding the tadpole from its benthic predators. The independent vibrant terminal flagellum and jet of water from median ventral spiracle support the tadpole in midwater, while the gas-filled, dorsal, elongated lungs help keep the tadpole buoyant. The broad-finned tail helps in quick response to predators from within and outside of the pond, giving necessary agility to the tadpole. The lateral, prominently positioned eyes keep sustained surveillance on surroundings to detect enemies and locate plankton-rich layers in the water column.

Threats and enemies: Small size; choice of unique breeding, calling and egg-laying sites; and midwater, microphagous, well camouflaged tadpole combine to make the ant-frog highly successful. However, during the last stages of metamorphosis when the tadpole/froglet comes to rest at the edge of the pond,

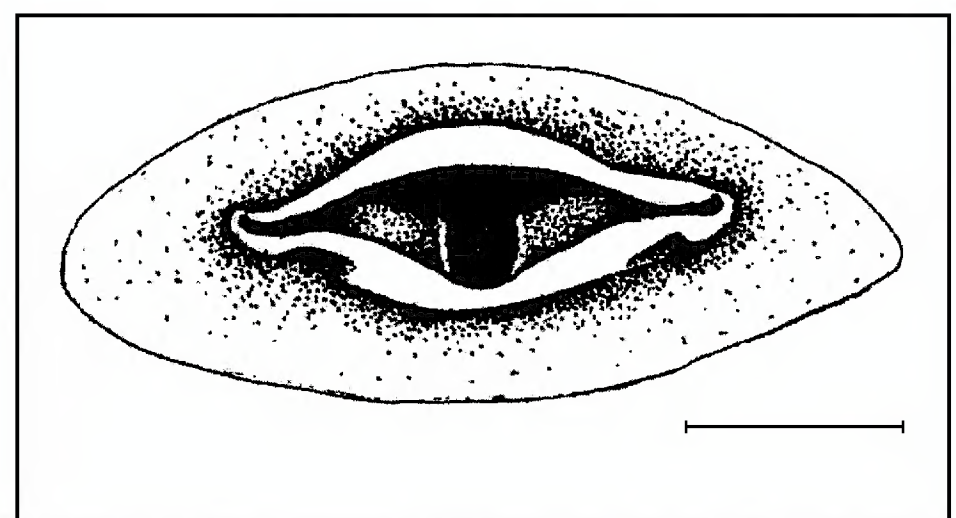


Figure 3. *Microhyla ornata* tadpole, oral region (scale = 1 mm).

it becomes most vulnerable to attacks from predacious sympatric tadpoles (*Hoplobatrachus*, *Euphlyctis* and *Bufo*) and several species of predacious aquatic insect larvae. However, perhaps its greatest risk is faced at the larval as well as adult stage from chemical pollutants that drain into ponds from surrounding sprayed crops, endangering all living creatures. Amphibians hiding among vegetation in fields are at even higher risk of being sprayed directly.

Its very smallness makes *Microhyla ornata* more agile, adding considerably to its ability to escape and hide from potential enemies, but conversely increasing in its vulnerability to attacks by numerous terrestrial predators. The frog escapes such hazards by its incredible jumping ability; it may take two to three consecutive jumps to the incredible height of 40–45 cm, covering a distance of 1.5 m in each leap on level ground (Khan, unpublished data).

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Natural History and Geographic Distribution of the Desert Lizard *Liolaemus pseudoanomalus* (Squamata: Iguania: Liolaemidae) from the Northern Monte Region, Argentina

Luciano Javier Avila^{1,2}, Mariana Morando^{1,2} and Luciana Belver¹

Almost 70% of Argentina consists of arid and semiarid biomes. These arid lands contain many endemic species of plants and animals, and have played an important role in the evolution of South American biodiversity. The Argentine Monte is located in north-central Argentina, extending approximately between 23° and 45°S along the eastern foothills of the Andes until it reaches the Patagonian steppe, and then east to the Atlantic Ocean. The Monte comprises much of the driest portion of western Argentina, and contains a high diversity of endemic lizards. This arid ecoregion has cold winters and receives less than 300 mm of precipitation each year; the dominant landscape is an open and low thorn scrub habitat.

In terms of diversity and density the genus *Liolaemus* is the most important component of the Monte lizard fauna, but some species are more abundant and common than others (Belver, unpublished). *Liolaemus pseudoanomalus* is a small desert lizard (mean adult snout-vent length = 45.8 ± 11.1 mm), restricted to open, sandy, flat areas in the northern part of the Monte, from southern Catamarca to San Juan Province (Ceí, 1986; 1993; Acosta and Murua, 1997; Etheridge and Espinoza, 1997; Avila et al., 1998). This is a rare and poorly known species: Sage (1972, 1974) reported a few anecdotal ecological observations of *L. pseudoanomalus* and some limited information is present in the literature (e.g., Ceí, 1986, 1993). Here we present some notes on the geographic distribution, karyology and natural history of this species.

Geographic distribution

Liolaemus pseudoanomalus occurs in northwestern Argentina: in south-central Catamarca Province; north-central and western La Rioja Province; and south-central and eastern San Juan Province (Figure 1). The known distribution seems very fragmented but the available information is probably biased by the absence of adequate field surveys. The species is found in Catamarca in a system of interior basins formed by the Salar de Pipanaco and the valleys of the Río Abaucan–Río Colorado–Río Salado. In La Rioja it occurs in the southern drainage system of the Salar de Pipanaco, the valley between the Velasco and Famatina-Sañogasta Mountains, and in the lower Río Vinchina Valley. In San Juan Province it is found in the Ischigualasto area, and in the Bolson de Matagusanos, the Caucete sand dunes, and the adjacent sand flats between the Villicum and Pie de Palo Mountains. It also occurs in the Salinas de Mascasin along the southern border between San Juan and La Rioja Provinces. Etheridge and Espinoza (1997) reported a significant extension of the geographic distribution of *L. pseudoanomalus* in Catamarca province but in fact this new locality is only a few kilometers north of the type locality (Quebrada de la Troya, north Anillaco, west Catamarca).

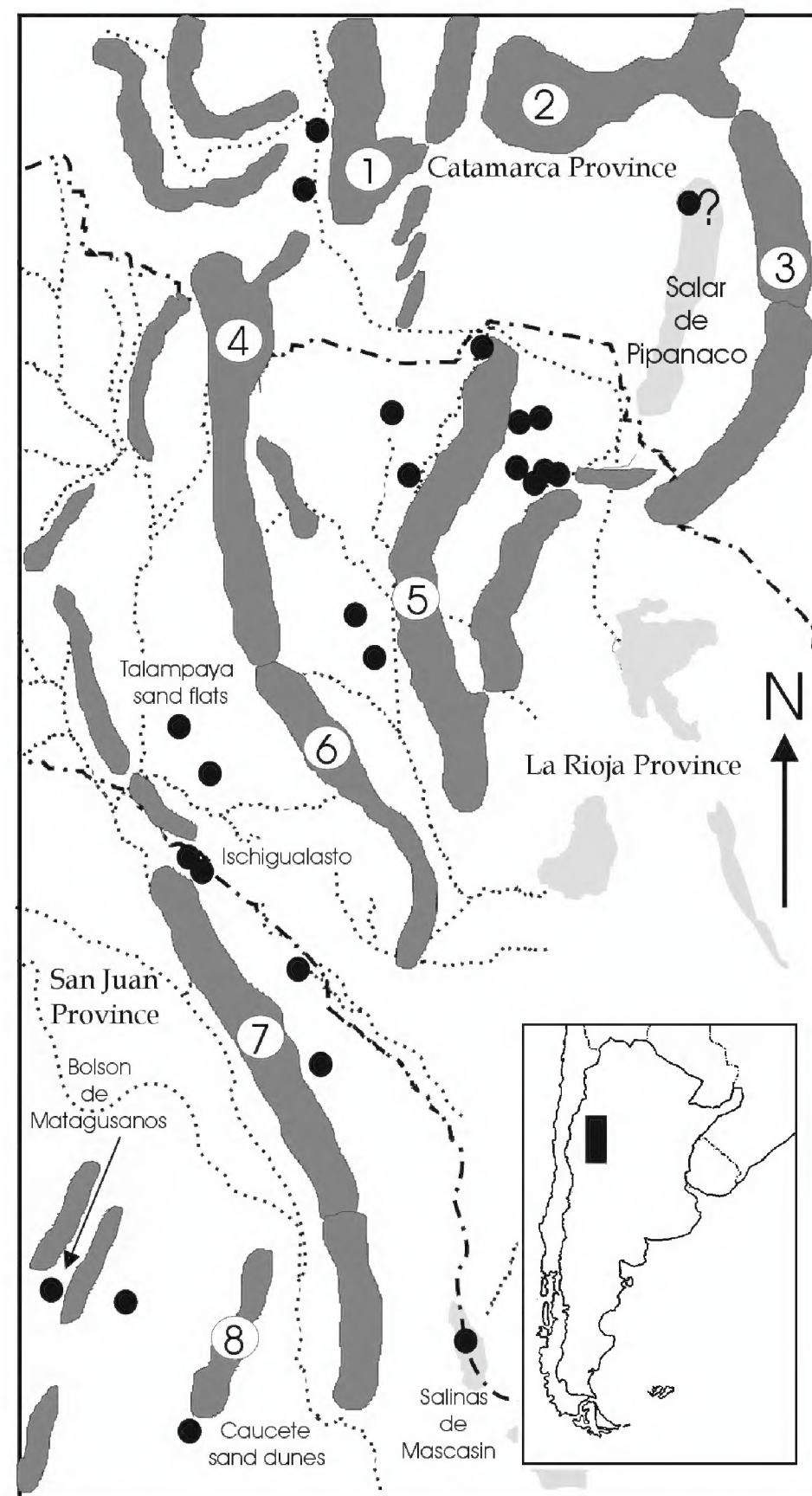


Figure 1. Known distribution of *Liolaemus pseudoanomalus* (black circles). Dark gray areas are the main mountain ranges ("sierras"): 1) Fiambalá; 2) Belén; 3) Manchao–Ambato; 4) Famatina; 5) Velasco; 6) Sañogasta; 7) Valle Fértil; 8) Pie de Palo. Light gray areas are depressions with salty lakes or seasonal flooded areas. Dotted lines are rivers. Dotted/dashed lines are provincial boundaries. Inset: black rectangle = location of the area in Argentina.

Karyology

Chromosome preparations were made from bone marrow, spleen, and testis using a cell suspension technique (Kasahara et al., 1983), and stained with Giemsa. Forty selected somatic metaphase and meiotic plates were analyzed and photographed, from two males and one female from La Rioja and Catamarca

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Provinces (voucher material in LJAMM collection, now housed in CRILAR-CONICET). The diploid complement of *Liolaemus pseudoanomalus* is $2n=34$ chromosomes, with 12 macrochromosomes and 22 microchromosomes. Pairs 1, 3, 4 and 6, are metacentric, and pair 2 is submetacentric with a distal secondary constriction in the long arm. Pair 5 is heteromorphic, with one chromosome metacentric, and the other acrocentric, possibly as a result of a pericentric inversion. The first microchromosome pair is considerably larger than the rest and is acrocentric. Meiotic configurations in diakinesis show six bivalents with terminal chiasmata in the majority of the cells. The heteromorphic pair can present one or two terminal chiasmata. The secondary spermatocytes (configurations in metaphase II) may present six meta- or submetacentric chromosomes, or five metacentric and one acrocentric chromosomes, but no duplications or deletions were observed. The fifth heteromorphic pair is the first report of this kind of rearrangement in the genus *Liolaemus*.

Habitat and behavior

Field observations on activity of *Liolaemus pseudoanomalus* were made in 1998, 1999 and 2000 in southern Pipanaco Basin, La Rioja Province, and in 2000 in the Bolson de Matagusanos, San Juan Province, and the northern area of the Talampaya Sand Flats, western La Rioja Province. *Liolaemus pseudoanomalus* is essentially terrestrial and occurs only on open, bare areas with sandy or gravel substrate. We never observed this lizards basking on bushes, branches, or on top of rocks as is common in other sympatric species of *Liolaemus* such as *L. cuyanus* or *L. koslowskyi*. Dorsal coloration is cryptic with the substrate; it is very difficult to observe these lizards in open areas. Usually the lizards are not seen until they attempt to escape from the observer's path. Basic dorsal coloration varies between the surveyed areas: it is a combination of creamy yellow, white and faded orange in the southern Pipanaco Basin; gray, white, red, and ocher in San Juan and western La Rioja,

with speckled black bands in both sites, in both cases corresponding with the variation in substrate color. Ischigualasto samples show darker background coloration. Their first escape behavior was to flee into the nearest vegetation, and remain immobile on the surface. But some lizards, found more than 20 m from the nearest bush, would run for 10–12 m and then stop and remain motionless. If pursued, they would move to another location or within the vegetation, and again remain immobile on the surface; less frequently retreat into small holes between the bushes roots.

During the summer months, the activity pattern is strongly bimodal, in early morning (between 08:00 to 11:00 hs) and again in late afternoon (between 18:00 to 20:00 hs). This pattern of daily activity changes to unimodal in cold days after heavy rains and in early spring and late autumn when lizards were observed continuously active between 09:00 to 18:00 hs.

The annual activity cycle starts in early September (late austral winter) and stops in late May or early June (late autumn or early austral winter), but observations along three years show that this cycle apparently depends of how cold the winter is. Offspring were observed active in late January and mid February, and in one opportunity we observed a *Liolaemus koslowskyi* eating a *L. pseudoanomalus* hatchling (Avila and Belver, 2000). *Liolaemus pseudoanomalus* is known to be syntopic or sympatric with several species of *Liolaemus*, *L. abaucan*, *L. anomalus*, *L. cuyanus*, *L. darwinii*, *L. koslowskyi*, *L. laurenti*, *L. olongasta*, *L. riojanus*, *L. wiegmanni*, and with *Leiosaurus catamarcensis*, *Teius teyou*, *Cnemidophorus longicaudus*, *Homonota fasciata*, *H. borelli*, and *H. underwoodi* but we never registered any kind of interaction with these species except with *L. koslowskyi*. The snakes *Bothrops ammodytoides*, *B. neuwiedi*, *Micrurus pyrrhocryptus*, *Lytophys semicinctus*, *Oxyrhopus rhombifer*, *Philodryas psammophideus*, *P. trilineatus* and *Phimophis vittatus* were found in sympatry with *L. pseudoanomalus* and may be predators of this species.

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HerPET-POURRI

by Ellin Beltz

Next time, use a neon sign

“A California woman was sentenced to 6 months in prison for smuggling nearly 2,900 sea-turtle eggs into the United States . . . purchased . . . in her native El Salvador,” according to the *Chicago Tribune*. She had wrapped each egg carefully in aluminum foil. [November 22, 2002, from Claus R. Sutor and Ray Boldt]

Hissing in action

“Giant snakes, likely abandoned pets, have a new hangout. . . . [It’s the] invasion of the Everglades. . . . [The] Burmese python commonly reaches 20 feet and nearly 200 pounds, topping out around 26 feet. It has been known to kill full-grown adults and even consume smallish people and children in their native Asia, according to . . . a Homestead biologist and reptile expert. For now, the pythons found in Everglades National Park are being taken to a wildlife rehab center in Homestead . . . [where the center] director . . . has several he’s fattening up to serve his king cobras. . . . Imported snakes such as boa constrictors and pythons . . . have been found in the park since at least the 1980s. . . . [And] some 1,000-plus captive snakes probably escaped into the wild after Hurricane Andrew in 1992. [Miami Herald, December 22, 2002, from Alan W. Rigerman]

Creative use of a Barbie skateboard

A three-legged turtle in England gets around fine now that the local vet and toy shop owner collaborated and glued a toy skateboard to the turtle’s shell under where his fourth leg used to be. The animal was imported to England, missing the leg, more than 25 years ago. [Daily Mail, U.K., August 10, 2002, from Bill Burnett]

Once warned, once busted

A 50-pound alligator, 10 pit bulls, two pythons and a tortoise were confiscated from a Mishawaka, Indiana, home. The alligator had a 4-foot by 12-foot pond in a bedroom separated from the dogs by a 4-foot high wire fence. This was the second time an alligator has been removed from this home. [South Bend Tribune, February 15, 2003, from Garrett Kazmierski]

Two snakes, two outcomes

A 67-year-old in Mountain Home, Arkansas, found a 7-foot-long python in his driveway. He forced the snake into a box by spraying it with his garden hose and put a piece of plywood on top. Then he called the sheriff. [August, 1, 2002] Just a few days earlier, a reticulated python escaped from its terrarium. Its frantic owner tried to find him, but a neighbor (150 yards away) found it and killed it with a shovel. “The mistake that snake made was coming into my yard.” The snake’s owner is disconsolate, but wants another serpent. [Both from Arkansas Democrat Gazette, sent by Bill Burnett]

Fourth IN Froggies

The Indiana Department of Natural Resources is seeking frog

counters for the fourth Indiana survey under standards established with the North America Amphibian Monitoring Program [NAAMP] run by the U.S. Geological Survey. Participants will be asked to choose a route to monitor from spring through summer to cover amphibian breeding seasons. There are stationary sites and routes that require 15-mile drives with 10 designated stops to record data. [South Bend Tribune, January 31, 2003, from Garrett Kazmierski]

Getting a head in business

A business in Oxford, Florida, is the source of about 95 percent of the tackiest southern souvenirs, stuffed, posed, dried and beheaded. A spokesman for the company says they produce 800 to 1,000 gator heads per day. He gets his heads and small gators from farms, the larger animals and heads from nuisance trappers. He says he sells between 4,000 and 5,000 large heads per year. [Sumter, FL Sun, July 20, 2002, from Bill Burnett’s mom]

Biohazards

- “Fishing, boating halted [at Lemon Lake] after countless tadpoles die . . . until [park officials] can determine what’s killed . . . tadpoles no bigger than one’s thumb. . . . While more mature tadpoles also have been found dead, they have been those at the shoreline where there are more weeds and grass to restrict . . . oxygen. . . . [A park spokeswoman] said she believed the dead tadpoles have caused a stir because of the spraying for the West Nile virus [now in its second year in the Chicago area]. . . . An emergency coordinator for the Indiana Department of Environmental Management did not discount the probability of natural causes claiming the tadpoles. . . . Alkaline levels tested within normal ranges . . . ammonium nitrate . . . indicates the presence of fertilizer . . . low . . . no spills into the lake.” Test results should have been back within a week. Other speculations included low oxygen due to heat followed by an influx of rain water. [Port Local Times, August 27, 2002, from J. N. Schoenfelder]

- In addition to effects of West Nile virus on more than 200 species of birds, reptiles and mammals which became ill this year, 200 individual alligators died from the virus on Florida alligator farms in 2002. In other zoos, other exotic animals killed included cockatiels, emus, seals, flamingos and penguins. Over time, species will adapt, but the speed at which the virus spread across the U.S. has shown weaknesses in American defense to biological agents. It is expected that the virus will reach the U.S. west coast in spring of 2003, home to giant poultry farms of chicken and geese as well as endangered whooping cranes and condors. It may also leap to the American tropics this year, putting already stressed populations of parrots and hummingbirds at risk. West Nile originally appeared in the fall of 1999 when it was found in a dead crow in New York. Some scientists suspect it arrived in an infected bird brought in from the Middle East, but there is — of course — no way to know. [Chicago Tribune, December 31, 2002, from Ray Boldt]

- Something I would have never thought of, is that the West Nile virus is in the same family as St. Louis encephalitis and is heat sensitive. So you can cook and eat something that died from either without apparent risk of getting the diseases. [Leesburg, FL *Daily Commercial*, November 14, 2002, from Bill Burnett]

- A total of 3,587 human cases and 211 deaths from West Nile were officially accepted by the Centers for Disease Control and Prevention. Perhaps as many as 200,000 Americans have been exposed, and 38 states and Washington, D.C., had cases in 2002. Researchers studying the affected alligators noticed the classic symptoms of West Nile: walking in circles, tilting their heads and appearing off-balance. How the mosquito manages to infect the tough-skinned alligator has not yet been observed. [*Orlando Sentinel*, November 14, 2002, from Bill Burnett]

- Meanwhile avian Newcastle disease has been getting around near Los Angeles, California. First discovered in backyard flocks, it was soon documented in the giant chicken farms, some caged and some uncaged, which abound in that area. All bird imports and exports from the area were halted. [*Eureka Times-Standard* from AP, February 2003]

Mahalo for finding them

- Wildlife officials on Maui are asking residents to watch for veiled chameleons. They're illegal and the finding of six, including a "very pregnant female," mature male and juveniles show that they have established a breeding population on the island. The manager of the state Department of Agriculture Plant Quarantine Branch said it seems they are loose because of "intentional releases of illegal animals into the wild with the purpose of establishing a population." The veiled chameleon is larger than the Jackson's chameleon, native to only one mountain in Kenya, which has also established itself on Maui. Veileds also can eat small birds and bird eggs, making them a concern for an island with no native animal in that niche. Workers putting in a fence in the affected area also found a mature ornate box turtle which is also illegal in Hawai'i. Possession of an illegal animal in Hawai'i can result in three years in jail and a fine of up to \$200,000. [*The Maui News*, December 7, 2002, from Alan W. Rigerman]

- A 1½-foot long rosy boa (*Lichanura trivirgata*), native to the desert southwestern U.S., was turned in to authorities on Kaua'i. Under the state's amnesty program, anyone voluntarily surrendering an illegal animal is immune from prosecution. [*Honolulu Advertiser*, January 8, 2003, from Ms. G. E. Chow]

- Two snakes were turned in on O'ahu, a 4-foot ball python and a 2-foot California kingsnake. [*Honolulu Advertiser*, August 20, 2002, from Ms. G. E. Chow]

Turtle news is people news

- "Sea turtles are in trouble, but turtle tourism is growing fast and raising awareness. Watch hatchlings make their way to the sea at these spots: Florida Coast . . . Sebastian Inlet State Park; Padre Island, Texas Hatchling Hotline (361) 949-7163; Tortuguero, Costa Rica; La Flor, Nicaragua; Zululand, South

Africa . . . October–February < <http://zululand.kzn.org.za> > ." [Newsweek, February 10, 2003, from J. N. Schoenfelder]

- About 20 Kemp's ridley turtles were flown from Cape Cod to Orlando, Florida, after they were found stranded along the cold northern shores. All told in 2002, about 101 sea turtles have been flown back to warmer waters. The juveniles are often afflicted with pneumonia and other fungal and bacterial infections. [Orlando, FL *Sentinel*, December 20, 2002, from Bill Burnett]

Wake up and smell the coqui?

- The coqui frog (*Eleutherodactylus coqui*) apparently moved itself from the Caribbean to Honolulu during the mid-1980s in potted plants. Back then, I recall the debate on whether or not a particularly sharp eared herpetologist was hearing coqui during a vacation way back when. "Everyone" told him he was nuts, that there were "no coqui in Hawai'i." Well, we've learned differently and the Hawaiians hate the noise and the thought of their entire bug system being eaten up from the inside out. So they've started frog eradication efforts. This is a first. Everywhere else (except in Australia with the cane toad), we are concerned about keeping all our amphibian species. Here's one which has translocated itself literally half way around the world and now we want to wipe it out. So we're studying all phases of its lifecycle to see where it's vulnerable. Proposed so far are lime sprays, caffeine sprays and acetaminophen spray as has been used in an attempt to control brown tree snakes on Guam last year. In addition, they've learned that Hawai'i is already fully invaded by a quieter Carribeano, the greenhouse frog. Coquis are also established in Florida, but haven't spread on the mainland, probably due to competition from native North American frogs. [*Science News*, January 4, 2003, from J. N. Schoenfelder] Let's hope they apply all this technology to saving some frog species somewhere else. I found particularly scary the statement that they found caffeine spray is an "effective frogicide . . . very few impacts on other non-target organisms." Insect populations dipped but rebounded. Now probably faster and resistant. Oh well. That's ecology.

- The man who heads the Coqui Hawaiian Integration and Re-education Project [CHIRP] criticized the way that state park workers were removing non-native vegetation and spraying citric acid in an effort to control non-native frogs on the Big Island. The work includes plans to replant with natives which may be less beneficial to the alien amphibians. CHIRP's website is < <http://www.hawaiiancoqui.org> > and a more official perspective may be heard at < <http://hear.org/AlienSpeciesInHawaii/species/frogs> > . [*Honolulu Advertiser*, December 16, 2002] In another article in the same paper, Mr. CHIRP suggests capturing coqui by hand and shipping them back to Puerto Rico. Authorities pointed out that there are major legal hurdles to pass to do what the frogs managed to do by themselves. [January 4, 2003, both from Ms. G. E. Chow]

- The Hawaii Department of Agriculture approved the use of 16 percent citric acid in water (double lime juice) for homeowners and nurseries to attempt to eradicate non-native amphibians. The solution is made with food-grade citric acid

usually used to make juice or soda so it is not regulated by the EPA. Nurseries are buying citric acid in 50-pound bags and repacking it for use by homeowners. Even so officials concede wiping the frogs off the Big Island and Maui could be impossible. [*Honolulu Star-Bulletin*, December, 13, 2002, from Ms. G. E. Chow]

Four-winged dinosaur

Chinese researchers have described a new species of tiny feathered dinosaur (*Microraptor gui*) in 124 to 145 million year old sediments in Liaoning Province in northeastern China. It had feathers on all four limbs and probably glided from tree to tree. The full account was published in *Nature* as the cover story. [*China Daily*, January 24, 2003, from Mrs. P. L. Beltz]

Still deadly after all these years?

A U.S. Fish and Wildlife inspection officer said that they confiscated a stuffed cobra, poised in a striking pose from a tourist coming back from Thailand. "When the animal is killed," he said, "The venom becomes solidified. But if you punctured yourself, it could be lethal." Other yuck they've stopped includes pickled cobras and decomposing iguanas in bottles labeled "wine," and all other sorts of live and dead contraband. [*Arkansas Democrat Gazette*, December 4, 2002, from Bill Burnett]

Revenge of the turtle

A 110-pound turtle netted by fishermen in the Gulf of Thailand and taken home to a Cambodian village was butchered and cooked. Between 90 and 100 people fell ill with vomiting and diarrhea, several were in hospital for a while and three died. There was no speculation as to the cause. [*Honolulu Star-Bulletin*, December 8, 2002, from Ms. G. E. Chow]

Nice to know they're there

Massasaugas were found in the Indiana Dunes National Lakeshore last year in a funnel trap and released back into the park. The last previous confirmed sighting in the park was in 1999 when one was found that had been killed by a car. [Chesterton/Valparaiso, IN *Post-Tribune*, December 23, 2002, from Jack Schoenfelder; *South Bend Tribune*, December 24, 2002, from Garrett Kazmierski] The *Chicago Tribune* added that massasaugas are not particularly dangerous, but are an important part of the ecosystem. [December 31, 2002, from Ray Boldt]

The hiss of life

"Several snakes, including a 10-foot male albino Burmese python, two frogs and 12 chameleons, died of burns or smoke inhalation," in a North Miami warehouse fire. Firefighters put two female Burmese on oxygen by using infant oxygen masks. The photo was adorable. Miami-Dade's Venom One rolled out because their workers are "experienced at dealing with animals," and there were about 300 caged animals to be removed. The 21-year-old owner of the animals lamented the loss of the male python, it was her only male. A female was found later, hiding in a couch. [*Miami Herald*, January 18, 2003, from Alan W. Rigerman]

Death and lawyers

- An environmental lawyer was on a Charlotte County, Florida, beach when he saw seabirds eating newly hatched loggerhead sea turtles. He saw a nest about to hatch, dug out the turtles and moved them to the sea. A Wildlife Conservation Commission spokesman said, "Here's an educated man who probably believed he was doing right. But the laws are there to keep people from doing just what he did." And so the man was charged with one count of killing or wounding a threatened species which carries a maximum fine of \$5,000. The man's lawyer (not himself, for he is no fool) has promised a "vigorous" attack on the charge. [*Miami Herald*, January 18, 2003, from Alan W. Rigerman]

- "The killing zone starts right down there, by that lawyer's office..." said a Florida herpetologist. He has found that a seven-mile stretch of road north of Tallahassee is huge. About three years ago, he walked and picked up 90 dead turtles in just one-third of a mile. He also found that 98% of the turtles that try to cross the road don't make it across. There's only one culvert from the dry uplands to the wetlands on the other side of this old road which is now carrying much more traffic than it was originally built to take. Matt Aresco has started a website and posted pictures of the carnage < <http://www.lakejacksonturtles.org> > and tried to get authorities to do something to stop the carnage. He has personally drift-fenced and saved 8,016 turtles in the past 33 months. He marks and measures them, then carries them over the road. Even so, in 2000, he counted almost 200 turtles killed by raccoons. Now DOT is funding a \$50,000 study to see what can be done. [Orlando, FL *Sentinel*, October 23, 2002, from Bill Burnett]

Supertyphoon aids supertramp

- Supertyphoon Pongsona hit Guam December 8, 2002. About one-third of the traps laid out to capture the brown tree snake near the airport are gone and "they can't put them back up since there is nothing to hang them on. There also is no gas for the workers to get around to do the monitoring," according to the *Honolulu Star-Bulletin*. Even before the typhoon, five inspection jobs were vacant. Others are manned by a person and beagle, sniffing their way along pallets of cargo brought in and out of the airport. "The last brown tree snake found in Hawaii was discovered in August 1998 by a Continental Airlines mechanic. The dead 28-inch reptile was found in the wheel of a plane during routine maintenance. Since 1981 eight others, four alive and four dead, have made it to Hawaii. Last year 18,000 brown tree snakes were captured on Guam by inspectors during airport checks." They estimate that even so, they may still miss inspecting three or four outgoing flights per month. [December 18, 2002, from Ms. G. E. Chow]

- "The greatest risk [from the situation caused by the supertyphoon] will be when emergency equipment shipped from Hawai'i to Guam, such as telephone repair equipment, power generators, etc., begins to return to the state. Everything used there has to be checked." Hawai'i has no native snakes and hopes to keep it that way. [*Honolulu Star-Bulletin*, December 11, 2002 from Ms. G. E. Chow] The brown tree snake is reported to be native to Indonesia.

Letters:

- September 10, 2002: "I just have the August issue. . . . I see the note in your column on page 145 about Turtle Independence Day. As often happens, it's garbled. The facts which are accurate in this enclosed clip from the *North Hawaii News* tell of a great success story. These released young *honu* (green sea turtles), many of them, are easily visible in shallow water all up and down our Kona Coast. Best, Aloha, Paul Breese, Director Emeritus, Honolulu Zoo."
- January 18, 2003: "[Ferndale] is lucky to have the rain. Winter here in Chicago has been gray, cold and dry. . . . Ray Boldt." Thanks, Ray. Our Pacific treefrogs think so, too. They've been calling morning, evening and night for the past

couple of weeks.

- February 3, 2003: "In October 2003, the Post Office will issue a block of stamps featuring the scarlet kingsnake, blue-spotted salamander, reticulate collared lizard, ornate chorus frog and ornate box turtle. . . . Not much more to report. Hope you have recovered from your trip down under. Regards. Ray Boldt."

Thanks to everyone who contributed for this month's column. You can contribute, too. If you see a herp-related article, please send the whole page (not very heavy) with your name on each piece to: Ellin Beltz, POB 934, Ferndale, CA 95536. Letters only to my E-mail, please: ebeltz@ebeltz.net.

Unofficial Minutes of the CHS Board Meeting, February 14, 2003

Lori King called the meeting to order at 7:32 P.M. Board members Mike Dloogatch, Linda Malawy, Joan Moore and Jenny Vollman were absent. Zoe Magierek left the meeting early and missed the vote on the board of directors insurance. The minutes from then on were taken by Erik Williams.

Officers' Reports

Recording Secretary: Zoe Magierek read the minutes of the January 17 board meeting. Corrections were made and the minutes were accepted.

Treasurer: Jim Hoffman distributed the 2003 budget and the January income statement and the January 31 balance sheet. Photo booth income from 2002 was included because the check had just been received. Mike Redmer wanted the figures from amazon.com. Jim wanted to be accurate with the budget even if that meant projecting a loss. He did not include a budget item for donations. Jim requested that suggestions and/or changes be emailed to him.

Corresponding Secretary: Erik has received many calls from clubs or other not-for-profit organizations wanting us to do presentations and was wondering how to handle them. The Speakers Bureau was then discussed. Jack Schoenfelder mentioned having done a presentation at Humboldt Park and routing it through shows through Jenny Vollman. Jim Hoffman mentioned setting a fee schedule for these presentations. It was brought up that many of these organizations do not have media for these presentations and perhaps we should invest in a slide projector etc. This potential to buy equipment was deferred and the Speakers Bureau will go on the agenda for the next board meeting.

Publications Secretary: The website was discussed. Lori King suggested bringing broad criticisms and suggestions to Mike Redmer first.

Standing Committees

ReptileFest: The next ReptileFest committee meeting will be

3/2/03 at 2 P.M. in Hyde Park. Darin got an exhibitor form back from the Notebaert and got help responses from the *Bulletin* ad. Table sales have already exceeded our budgeted expectations by \$100. Darin had 5000 single-sided flyers printed; the map and driving directions will be downloadable from the website. Rich Crowley gave Darin some information about advertising in an online newspaper. The St. Louis Herpetological Society wants more table space this year.

Grants: There were 27 total proposals received. The Grants Committee recommended that we fund three fully at \$500 and five others at half, \$250. This level of funding was slightly more than the available funds; an anonymous donation was received to cover the balance. Mike Redmer moved to accept these proposals and fund them, Tom Anton seconded. The motion carried unanimously. Mike Redmer brought up the idea of following up on past grant recipients, and mentioned he had just received an E-mail from a previous recipient working in Panama and thought perhaps we could ask him to be a speaker at a later date.

Chicago Wilderness: Tom Anton got a letter of policy and procedure regarding the CHS as a member of Chicago Wilderness. This letter asked for a monetary donation for membership in Chicago Wilderness. No amounts were specified; the idea was more to get the CHS and other organizations to show support in a financial manner to be in Chicago Wilderness. Jack Schoenfelder wondered if we gave an original donation, and the answer was no, this is a first time initiative. Tom Anton was just presenting this information to the board. Mike Redmer asked to table this topic. Lori King and Tom Anton decided to table it for tonight. Lori King asked Tom Anton for a rough idea of a possible donation and Tom Anton suggested a tentative \$150. Mike Redmer and Tom Anton will do homework to see what other organizations are contributing, perhaps more or perhaps less. Tom Anton also received a survey on Organizational Issues and Conservation Management of the Chicago Wilderness Coalition and was wondering if he filled it out on behalf of the CHS or as Tom Anton. As other board members had also received a survey it was decided he fill it

out from his perspective not on behalf of the CHS.

Conservation: A letter has been received from Chris Phillips about using the Massassauga proceeds to refurbish three receivers and one antenna and to purchase one temperature data recorder for burrow sites. A motion was made by Darin Croft, and seconded by Erik Williams, to disburse \$1500 to the massassauga project for the proposed uses. The motion carried unanimously. Lori King brought a 2003 conservation directory to the board to look at. The idea of getting it for \$70 for the library was brought up. Tom Anton suggested we ask Steve Sullivan's opinion of its usefulness or see if we can borrow an older copy and table the issue for now.

Old Business

State Reptile/Amphibian: A loose timetable was set up and the idea of outside support from politicians and grass roots organizations was discussed.

Board of Directors Insurance: Lori King presented two quotes to the board for insurance, one from Great American and one from St. Paul, both providing \$1 million coverage. St. Paul was recommended even though it was more expensive because it included coverage for punitive damages. Tom Anton moved to use St. Paul and allocate \$1550 for Board of Directors insurance. Jim Hoffman seconded. The motion carried unanimously.

New Business

Lori King talked to museum president and CEO Joe Shacter about having a steady schedule of CHS shows at the Notebaert. Jenny Vollman, Steve Sullivan and Lori King met with

Michelle about having shows possibly every other week.

Jack Schoenfelder would like to sell items at general meetings as "Reptiques." The board okayed this. It was decided that anyone who would like to sell items at the general meetings should present before the board for approval.

Erik Williams was offered 20 copies of Daniel Bennett's new book, *Savannah Monitors*, at a discount and felt selling them at the general meetings for a modest markup would be an easy way to raise a few dollars for the CHS. It was decided that he should bring the issue to the table again when the books arrived, to discuss reimbursement and distribution.

Lori King said that Hyde Park books wants to bring some reptile related books to sell at ReptileFest.

Ideas/Suggestions

Tom Anton suggested removing the ideas and suggestions heading from the order of business. The board decided against removal.

Round Table

Lori King announced a talk on sea turtles at the next CIHS meeting in Peoria.

Jim Hoffman had some questions about the board of directors insurance and wondered about budget approval by the board.

The meeting was adjourned at 9:55 P.M.

Respectfully submitted by Recording Secretary Zoe Magierek

Bull. Chicago Herp. Soc. 38(3):58, 2003

The Tympanum

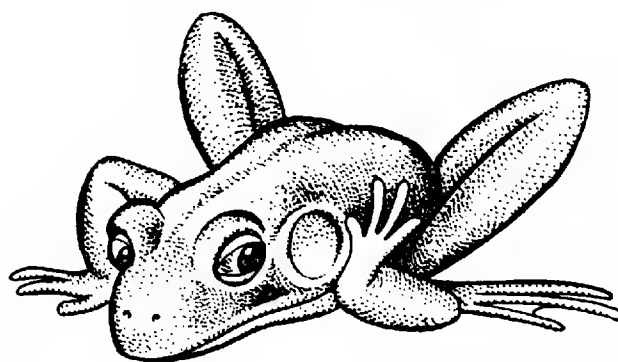
Dear CHS:

Freedom is what the United States used to stand for. I'm 57 years old. I served in Navy aboard a submarine in wartime. I don't want to deal with inspections, chips, permits, fees or restrictions. I want my grandchildren to have the joy of finding a clutch of eggs the pet of their choice has laid. The joy of raising captive animals, which in a free society, they can sell or give away. Most of my ten- or twelve-year-old friends are hard pressed to get a tank with a screen top with a rock on it. They beg, borrow, and steal to get "pinkies." A \$30 corn snake would cost \$100 registered with chip and a locking cage suitable for being inspected, would cost four or five hundred.

The state agencies involved in redtile (sic) laws are monsters. (runaway government)

Example: 4" Turtle Law

Example: In Illinois I cannot own an albino captive-bred skunk.



Example: I cannot own a raccoon.

Example: I cannot get a permit for many reptiles if I wish to breed them or enjoy them as a pet.

When some are killed by a pet the person who owns the pet is responsible! Not THE PET. I should not be pun-

ished for their mistake!

I thank you for your time.

The Chicago Herpetological Society's purposes are: Education, conservation, and the advancement of herpetology. Please fight for us.

NO NEW LAWS. NO RESTRICTIONS. NO PERMITS. REPEAL THE 4" TURTLE LAW.

Sincerely, Ed Pringle, 14535 Kenton Avenue, Midlothian IL 60445-2620.

Herpetology 2003

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

TADPOLE TRADE-OFFS

C. M. Bridges [2002, J. Herpetology 36(4):627-634] notes that organisms are predicted to make trade-offs when foraging and predator avoidance behaviors present conflicting demands. Balancing conflicting demands is important to larval amphibians because adult fitness can be strongly influenced by size at metamorphosis and duration of the larval period. Larvae in temporary ponds must maximize growth within a short time period to achieve metamorphosis before ponds dry, while simultaneously avoiding predators. To determine whether tadpoles trade off between conflicting demands, the author examined *Pseudacris triseriata* tadpole activity and microhabitat use in the presence of red-spotted newts (*Notophthalmus viridescens*) under varying conditions of pond drying and hunger. Tadpoles significantly decreased activity and increased refuge use when predators were present. The proportion of active time tadpoles spent feeding was significantly greater in predator treatments, suggesting tadpoles adaptively balance the conflicting demands of foraging and predator avoidance without making apparent trade-offs. Tadpoles responded to simulated drying conditions by accelerating development. Pond drying did not modify microhabitat use or activity in the presence of predators, suggesting tadpoles perceived predation and hunger as greater immediate threats than desiccation, and did not take more risks.

TADPOLE DIETS

D. K. Skelly and J. Golon [2003, Herpetologica 59(1):37-42] report that larval anurans are known for having diverse diets, but there have been relatively few studies examining their assimilation of natural foods or how they cope with variation in available resources. In this study, the authors estimated assimilation of food resources of two species of larval anurans that were presented with benthic substrates from a set of natural ponds. Assimilation was measured during a week-long experiment during which substrates were renewed and feces were collected daily. Larvae of wood frogs (*Rana sylvatica*) and spring peepers (*Pseudacris crucifer*) were given benthic substrates from ponds shaded by deciduous forest vegetation as well as from unshaded ponds. Organic content was measured in the foregut of tadpoles and from their feces. Estimates of assimilation efficiency were lower than those reported for tadpoles consuming artificial food. Both species experienced reduced assimilation efficiency on closed canopy food resources, but did not differ in their abilities to assimilate organic matter from either type of food resource. However, wood frogs processed more food during the experiment. The results suggest that natural variation in composition of food resources among ponds could have important effects on tadpole performance and provide some support for interspecific differences in food utilization consistent with relative patterns of performance and distribution.

POLYPHENISMS IN TIGER SALAMANDERS

H. H. Whiteman et al. [2003, Copeia 2003(1):56-67] note that polyphenisms (environmentally cued polymorphisms) are ubiquitous, yet the specific proximate mechanisms producing alternative morphs are generally not well known. They tested hypotheses for the role of large heterospecific prey in the cannibalistic polyphenism within larval tiger salamanders, *Ambystoma tigrinum nebulosum*, to determine whether heterospecific prey directly or indirectly influence the production of cannibal morphs. Field surveys suggested, and laboratory experiments confirmed, that macroinvertebrate prey induce cannibals via an increase in body size variation within larval salamander populations. Dietary data and laboratory foraging experiments revealed that cannibals preferred conspecifics even when their capture success was greater on macroinvertebrates. Typical morphs, in contrast, consumed only macroinvertebrate and other prey and never successfully cannibalized conspecifics. The results support the indirect hypothesis that cannibals are induced via increased body size variation within a population, as a result of differential consumption of large heterospecific prey, and do not rely on consumption of heterospecific prey once they are cannibals. The cannibalistic polyphenism is one example of phenotypic plasticity in which the functional significance and the proximate mechanisms producing the two morphs are becoming clearer, allowing further study of the molecular and physiological basis of the alternative phenotypes.

BODY SIZE EVOLUTION IN ISLAND SNAKES

S. M. Boback [2003, Copeia 2003(1):81-94], noting that the current literature reports divergent conclusions on patterns of body size change in island snakes, reviewed body size data in the published literature and tested the effects of island biogeographic variables on such changes. None of the physiographic variables (island area, island age, distance to mainland and latitude) was important in determining changes in size of island snakes. Additionally, a current hypothesis of phylogenetic history had no effect on changes in body size. Rather, the proportional change in body size of island snakes was bimodal, consistent with a diet alteration hypothesis that suggests that snake body size is principally influenced by prey size and that island snakes encounter prey that are larger or smaller in size compared with those on the mainland. Also, snakes that became small on islands did so to a relatively greater degree than those that became large. Ontogenetic changes in foraging strategies appeared to explain this pattern. The distribution of gigantic and dwarf snake populations on islands differed significantly between the families Viperidae and Colubridae. The foraging style of colubrids, specifically nest-robbing behavior, may predispose these species to become larger on islands. Numerous colubrid (and one elapid) species attain their largest sizes on islands that also support nesting seabirds, whereas dwarfed populations consume mainly squamates.

GAME THEORY AND VARANID COMBAT

R. L. Earley et al. [2002, *Amphibia-Reptilia* 23(4):469-485] note that most data on aggressive encounters in varanid lizards are qualitative and often anecdotal. The few quantitative reports have not explicitly tested the predictions generated by game theoretical models of animal combat despite the apparent relevance of such models. The goal of this paper was to investigate whether the patterns evident in varanid contests conform to the predictions of the sequential assessment game with special emphasis on the organization, duration, and outcome of the encounters. Several characteristics of monitor combat are consistent with the sequential assessment game. For instance, contests are organized into distinct phases, displays are repeated within each phase, and asymmetries play a crucial role in determining contest duration and outcome. However, data pertaining to a number of the sequential assessment game's most critical postulations are absent from the current varanid literature (e.g., the consistency of display intensity within each phase). As more quantitative data emerge, the applicability of the sequential assessment game to varanid contests may be better assessed.

MOVEMENTS OF MIDGET FADED RATTLESNAKES

K. G. Ashton [2003, *Copeia* 2003(1):190-194] presents data on movement and mating behaviors of adult male rattlesnakes, *Crotalus oreganus concolor*, in southwestern Wyoming and compares the results to other populations. Male *C. o. concolor* make short, infrequent movements. No evidence was found of migratory behavior or shifts in areas used during the monitoring period. Mating behavior was limited to 5–17 July, a shorter duration than for any other population of *C. oreganus*. Males located and courted females prior to shedding of the females; however the only successful mating was between a pair that had recently shed. One instance of male combat was observed, during which the larger male displaced the smaller.

PYGMY NEWT SEXUAL BEHAVIOR

J. Hidalgo-Vila et al. [2002, *Amphibia-Reptilia* 23(4):393-405] report that the courtship behavior of pygmy newts, *Triturus pygmaeus*, consists of three phases: orientation, static display and spermatophore transfer. The repertoire of male sexual behavior consists of nine different movements. *Exhibition*, an alert posture in which the male advances with small jumps around the female, is the most frequent behavior. The predominant tail movement is *slow fan*, in which the tail is softly undulated from approximately 30 to 140°. In contrast to the tail lashes of the large *Triturus* species, the tail only occasionally beats against the male's flank and never touches the female. Bait mimic tail movements (described for *T. boscai* as *flamenco*) are used to attract the female's attention. Duration of sexual encounters averaged 2203 s; males displayed in about 81% of this time. Although the courtship of *T. pygmaeus* shows clear differences from that of its closest relative, *T. marmoratus*, it should nevertheless be grouped with the larger *Triturus* species: conspicuous tail movements are used to attract the attention of the female, but no direct response is required of her to complete the courtship.

STAGGERED HATCHING IN A TEMPERATE FROG

K. Thumm and M. Mahony [2002, *Amphibia-Reptilia* 23(4):433-444] found that embryonic development to the time of hatching varies within and between clutches of the red-crowned toadlet, *Pseudophryne australis*. Hatching occurred over many developmental stages, from 24 to 36 (modified Gosner stage). The time taken from oviposition to hatching varied from 15 days to 119 days. To determine whether hatching is triggered by environmental cues or is constitutive, clutches were held under constant conditions and compared with those held under conditions similar to the field. Hatching was staggered in all cases implying a constitutive basis. The authors postulate that this diversification of phenotypes in *P. australis* is a bet-hedging strategy driven by the unpredictable rainfall conditions within the range of the species.

SNAIL-EATING SNAKE FEEDING BEHAVIOR

M. Götz [2002, *Amphibia-Reptilia* 23(4):487-493] notes that while the snail-feeding behavior of several dipsadine snakes has been described in some detail, information regarding the feeding behavior of the Pareatinae, which independently evolved snail-feeding adaptations, is not available. The author describes the behavior of captive *Pareas carinatus* feeding on European round-shelled snails. The snake bites into the snail's body and lifts it from the ground. With alternate retraction movements of the mandibles, it pulls the body out of the shell while the upper jaw rests on the outside of the shell. There are only slight differences from dipsadine snakes: *Pareas* never followed a mucus track and did not coil around the snail's shell. There seemed to be a preference to catch the snails from behind. Extraction time (24–390 s) and number of mandibular movements (22–98) were similar to the data on the dipsadines.

SALAMANDER SOCIALIZATION

P. Verrell and K. Davis [2003, *Herpetologica* 59(1):1-7] note that most studies of amphibian sociobiology focus on breeding individuals. However, adults certainly interact when not breeding and may do so subtly and in natural habitats that are inaccessible to direct observation. The authors conducted three laboratory experiments to explore social interactions among non-breeding, adult long-toed salamanders (*Ambystoma macrodactylum columbianum*), which reside in terrestrial burrows in nature. In substrate discrimination tests, salamanders preferred areas that bore chemical cues indicative of occupancy by a conspecific relative to clean areas (Experiment 1). However, only females discriminated occupant sex, preferring to associate with chemical cues derived from males (Experiment 2). When provided with a partner, salamanders spent more time in cohabitation in an artificial burrow than residing alone (Experiment 3). These data suggest that, in nature, non-breeding adults may be social rather than territorial; conspecifics may aggregate rather than exclude one another. However, males and females may experience different kinds of benefits and costs to sociality outside of the breeding season, perhaps as a function of sex differences in energetic requirements for future reproduction.

SAHARAN SAND VIPER BURROWING

B. A. Young and M. Morain [2003, Copeia 2003(1):131-137] note that sand vipers of the genus *Cerastes* vertically burrow into the soft sand of the Saharan desert. The mechanics of vertical burrowing in *Cerastes cerastes* and *Cerastes vipera* were explored using a combination of morphology, videography, radiography and experimental manipulation. The results suggest that the key to vertical burrowing is localized unilateral rib abduction. The ribs terminate in expanded calcified costal cartilages, which, when abducted, aid in scraping sand from below the snake and transporting it laterally. The transport of the sand is enhanced by long-axis torsion of the vertebral column. The specialized lateral scales of *Cerastes* do not appear to function in vertical burrowing.

DIVING BEHAVIOR OF TWO FRESHWATER TURTLES

T. E. Priest and C. E. Franklin [2002, J. Herpetology 36(4): 555-561] report that *Rheodytes leukops* is a bimodally respiring turtle that extracts oxygen from the water chiefly via two enlarged cloacal bursae that are lined with multi-branching papillae. The diving performance of *R. leukops* was compared to that of *Emydura macquarii*, a turtle with a limited ability to acquire aquatic oxygen. The diving performance of the turtles was compared under aquatic anoxia (0 mmHg), hypoxia (80 mmHg) and normoxia (155 mmHg) at 15, 23 and 30°C. When averaged across all temperatures the dive duration of *R. leukops* more than doubled from 22.4 ± 7.65 min under anoxia to 49.8 ± 19.29 min under normoxic conditions. In contrast, aquatic oxygen level had no effect on the dive duration of *E. macquarii*. Dive times for both species were significantly longer at the cooler temperature, and the longest dive recorded for each species was 538 min for *R. leukops* and 166 min for *E. macquarii*. Both species displayed a pattern of many short dives punctuated by occasional long dives irrespective of temperature or oxygen regime. *Rheodytes leukops*, on average, spent significantly less time (42 ± 2 sec) at the surface per surfacing event than *E. macquarii* (106 ± 20 sec); however, surface times for both species were unrelated to either water temperature or oxygen level.

REPRODUCTIVE MODES IN LEPTODACTYLUS

C. P. A. Prado et al. [2002, Copeia 2002(4):1128-1133] note that the genus *Leptodactylus* provides an example among anurans in which there is an evident tendency toward terrestrial reproduction. They describe a new reproductive mode for the frog *Leptodactylus podicipinus*, a member of the “*melanotus*” group. This new reproductive mode represents one of the intermediate steps from the most aquatic to the most terrestrial modes reported in the genus. Three reproductive modes were previously recognized for the genus *Leptodactylus*. However, based on the data from this study, and on several studies on *Leptodactylus* species that have been published since the last reviews, The authors propose a new classification, with the addition of two modes for the genus.

FORAGING ECOLOGY OF RAINBOW SKINKS

M. N. Wymann and M. J. Whiting [2002, Copeia 2002(4): 943-957] determined group composition and foraging mode in a wild population of rupicolous rainbow skinks (*Mabuya margaritifer*) on rocky outcrops in a humid savannah of South Africa and examined diet, sexual dimorphism, and life-history traits in museum material. They also field-tested lizards for prey chemical discrimination. Males were larger than females in both body and head size. Both sexes reached maturity at 68 mm SVL, and females produced clutches of 2–9 eggs. Males excluded other males from their home range but shared overnight crevices with 1–4 females and 1–6 juveniles. *Mabuya margaritifer* were ambush foragers when only the amount of time spent moving (8%) was considered; however, other variables such as moves per minute (1.3) and average speed (0.01 m/s) suggest an intermediate foraging mode between active and ambush foraging for the population studied. The lizards spent most time on rock (81.5%) but also moved into vegetation (7.9%) and along the rock–vegetation interface (10.6%). Both sexes spent similar amounts of time in these microhabitats and were observed feeding in all three. Diet was dominated by termites, and overlap in prey types between sexes was high. In experimental tests for prey chemical discrimination, lizards tongue-flicked rarely, giving no indication of an ability to discriminate prey chemicals. Also, lizards observed in the field during focal observations performed few tongue-flicks. Based on these results, sexual dimorphism is best explained by sexual selection via male contest competition and not by ecological niche divergence.

CANTILEVER ABILITY OF SNAKES

Y.-C. Lin et al. [2003, Herpetologica 59(1):52-57] note that terrestrial, and especially arboreal, snakes can generally span a greater distance than aquatic snakes, which have a relatively short saccular lung. Thus, they hypothesize that the saccular lung provides structural support when snakes form a cantilever. Without subsequent study, the saccular lung, has long been proposed as a support for a snake’s body, especially to help span gaps. To test this hypothesis, the authors determined whether the pressure in the saccular lung was significantly elevated when the snake was spanning a gap. Further, they reduced pressure in the lung to zero to determine whether this manipulation reduced the cantilever ability of the snake. The pressure in the saccular lung increased significantly as a snake neared its maximal cantilever distance. However, when the pressure in the saccular lung was prevented from rising above atmospheric pressure, the snake’s maximal cantilever distance was not affected. Therefore, the pressure increase in the saccular lung as the snake approached its maximal spanning distance was probably caused by the contraction of skeletal muscles needed to support the body. The authors conclude that the saccular lung does not help snakes span gaps. They discuss whether the saccular lung helps support the body or maintain posterior body form.

Advertisements

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail: GrmtRodent@aol.com.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, \$.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice and rats. We feed our colony a nutritionally balanced diet of rodent chow, formulated especially for us, and four types of natural whole grains and seeds. Mice starting from: pinks, \$.17 each; fuzzies, \$.24 each; hoppers, \$.30 each; weanling, \$.42; adult, \$.48. Rats: starting with pinks at \$.45 each, to XL at \$1.80 each. Discount prices available. We accept Visa, MC, Discover or money orders. P.O. Box 85, Alpine TX 79831. Call us **toll-free** at (800) 720-0076 or visit our website: <http://www.themousefactory.com>.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at \$20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice available: small newborn pinks up to jumbo adults. Prices start at \$25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: **Pillstrom Snake Tongs** are available from the manufacturer and are shipped worldwide. Lengths/prices: 26"/\$58, 36"/\$59, 40"/\$60, 46"/\$61, 50"/\$62. Shipping and handling costs in the U.S.: \$8 for the first tong, \$1 for each additional. Pillstrom Tongs, 4617 Free Ferry Road, Fort Smith AR 72903-2363, (479) 452-3001 phone, (479) 452-3671 fax. E-mail: pillstromt@aol.com. Website <members.aol.com/mpillstrom>.

For sale: natural history books. *The Herpetofauna of Komodo, with Notes on Adjacent Areas* by Walter Auffenberg, 1980, 156 pp., 52 figs. (range maps, drawings), softbound, \$36; *The Giant Snakes* by Clifford Pope, 1962 (1961), 290 pp., b&w photos, DJ, hardbound, \$26; *Snakes of Southern Africa* by Vivian FitzSimons, 1962, 423 pp., color plates, range maps, drawings; DJ torn; hardbound, \$125; *International Zoo Yearbooks*, hardbound with DJ, special sections of each indicated, \$60 per volume: Vol. 9, 1969—*Amphibians and Reptiles in Captivity*; Vol. 10, 1970—*Birds of Prey in Captivity*; Vol. 11, 1971—*Marsupials*; Vol. 12, 1972—*South American Primates in Captivity*; Vol. 13, 1973—*Waterfowl in Captivity*; Vol. 14, 1974—*Trade and Transport of Animals*; Vol. 17, 1977—*Breeding Endangered Species in Captivity*; *Curassows and Related Birds* by Jean Delacour and Dean Amadon; 1973 247 pp., 30 color plates, 69 b&w drawings, signed by Delacour, hardbound, \$260; *Rails of the World* by S. Dillon Ripley, 1977, 406 pp. (folio size), 41 plates, hardbound, boxed, \$160. *A Field Guide to the Reptiles and Amphibians of Britain and Europe* by E. N. Arnold and J. A. Burton, 1978, 272 pp., 351 illustrations (257 in color), drawings, range maps, hardbound, \$36. All books in excellent condition. Prices include postage. William R. Turner, 6014 Blue Ridge Drive, Apt. A, Highlands Ranch, CO 80130; (720) 344-6197; E-mail: turnerbmrk@prodigy.net.

For sale: Crested geckos (*Rhacodactylus ciliatus*), unsexed hatchlings/juveniles, \$30; female crested, 2 years old, \$40. Also, one male and one female leopard geckos, 6 years old, \$80 o.b.o.; one male and two female leopard geckos, 3 years old, \$120; San Mateo rosy boa (sex uncertain), 2 years old, \$75; one male and one female mossy leaf-tail geckos (w.c.), \$75. John, (630) 858-3767, or E-mail: johncebula@aol.com.

For sale: select green tree pythons: 7-month-old, aru type, \$300; 15-month-old, aru type, \$350; 21-month-old female, biak type, \$700; 2½-year-old female, sorong type, \$850. All are c.b. in excellent condition, come with complete history and records. Mike Wood, Warsaw, Indiana, (574) 269-3441. E-mail: 2bears@myvine.com.

For sale: Now accepting reservations for the following **rare & unusual** garter snakes. A 20% refundable deposit guarantees your place on a waiting list. Orders paid in full by May 1, 2003 receive a 10% discount. Here's the list of expected 2003 offspring: **Easterns**, (Erythristic × melanistic), erythristics, \$100, melanistics, \$35, erythristic (pure), \$100, super flames (erythristic/Blais flames × erythristic/Blais flames), ?; Blais speckled flames, \$125, Blais flames, \$100, Blais peach, \$50, melanistic, \$35 each & het melanistic (Florida × melanistic), \$25. **Plains**, red/anerythristic × red/anerythristic ?, red/hypo × albino × red/hypo × albino ?, snows (Iowa and Nebraska strains) \$275, albinos (Iowa and Nebraska strains), \$100, anerythristic, \$50, axanthic × Iowa albino (axanthic has a lime green dorsal stripe), \$50, quad het, \$85, Christmas albino, \$200, super Christmas albino (Christmas × red/albino), \$300, possible hets, \$35 & normals, \$25 ea/2 for \$40. **Red-sideds**, albinos (limited number available), \$350, possible het albinos (66%), \$50, anerythristic, \$100, het anerythristic, \$50, possible het anerythristic (66%), \$35 & normals, \$25 ea/2 for \$40. Florida "true" blue-striped (*similis*), \$40–100, **Santa Cruz** (orange and yellow morphs), \$60, **California red-sided**, \$125, **Wandering** albino, \$150, het, \$75 & normals, \$25 ea/2 for \$40. (?= Price is to be determined at birth). Questions, E-mail: SFelzersgarters@nc.rr.com or call Scott, (919) 365-6120 EST, thanks! Web address: <http://www.thamnophis.com/features/ScottFelzer/>

For sale: Rat snakes. Cunningham's *Elaphe*—Specializing in rare *Elaphe*. Working with *E. dione*, *E. ridleyi*, *E. climacophora*, corns, and many more. Rick, (309) 353-9661. E-mail: rick1@ntslink.net. Web site: <http://www.cunninghamselaphe.com>.

Herp Tours: Why pay more? Travel with the International Fauna Society, a 501 (c)3 not-for-profit organization, and experience the Costa Rican rainforest! Stay at the beautiful Esquinas Rainforest Lodge in the untouched herpetological paradise that is Piedras Blancas National Park. Meet new friends, relax in the naturally-filtered swimming pool or in the lush, fauna-filled tropical garden. May 3–10, 2003, \$1195 per person excluding airfare. Discounts for IFS and Chicago Herp Society members. For details, visit The International Fauna Society website at www.faunasociety.org or E-mail: joea@faunasociety.org.

Herp tours: Adventure trips to **Madagascar**! Journey somewhere truly unique to seek and photograph nature on the world's least-studied mini-continent. For maximum herp fun and discovery, join Bill Love as we go where few people will ever venture in their lives. Let his experience assure a comfortable tour finding the most colorful and bizarre species on the planet! Get all the details at Blue Chameleon Ventures' comprehensive new website: <<http://www.bluechameleon.org>>, E-mail: bill@bluechameleon.org, or call (239) 728-2390.

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Line ads in this publication are run free for CHS members — \$2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail: <MADadder0@aol.com>.

News and Announcements

REPTILEFEST NEEDS YOUR HELP

Overleaf you will find an announcement of this year's ReptileFest, suitable for posting on bulletin boards and the like. If you live in the Chicago area, we hope that you will help us to publicize this event by making photocopies of this announcement and distributing them widely.

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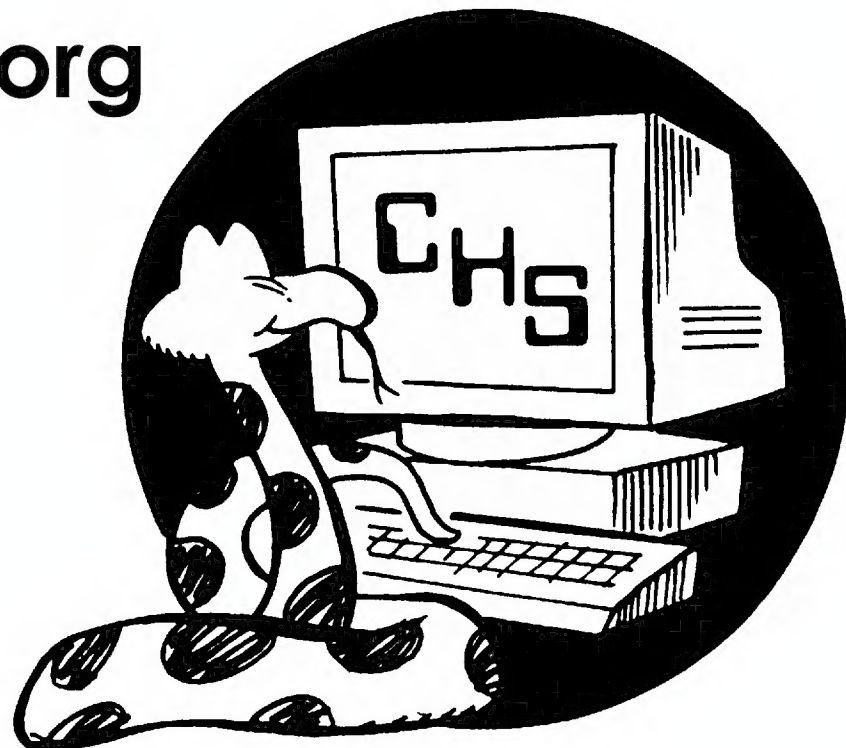
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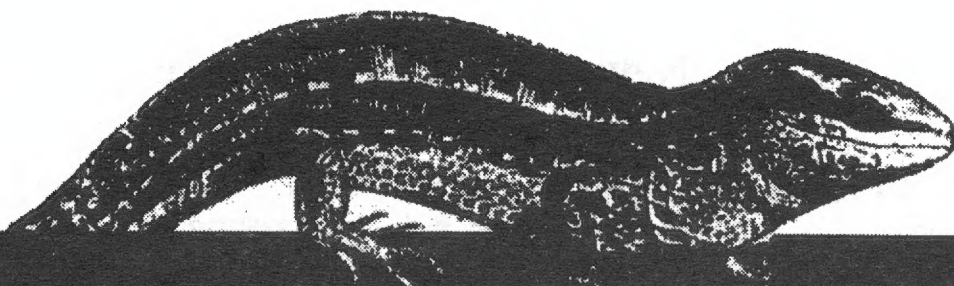
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- Announcements
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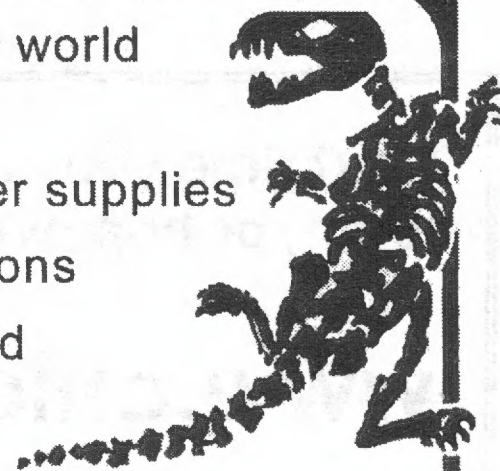
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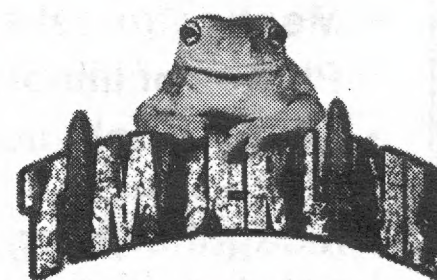
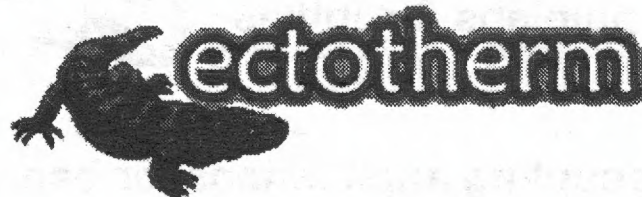
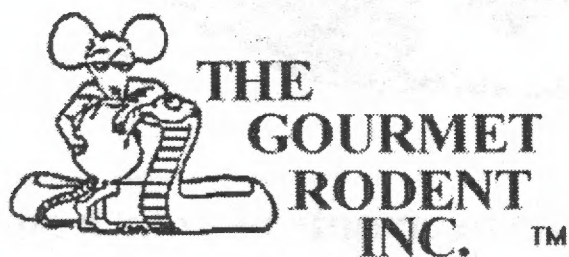
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UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, March 26, at the Peggy Notebaert Nature Museum, Cannon Drive and Fullerton Parkway, in Chicago. Our own **Don Wheeler**, creator of “The Adventures of Spot,” will lecture and show slides on “Tales from the Golden Age of Rattlesnake Hunting.” Don will have copies available of his book of the same title, and will be happy to autograph them.

The April 30 meeting will feature **Jim Pether**, all the way from the Canary Islands, speaking about the conservation and captive breeding of the newly discovered giant lizard of Gomera.

The regular monthly meetings of the Chicago Herpetological Society are held at Chicago's newest museum—the **Peggy Notebaert Nature Museum**. This beautiful new building is at Fullerton Parkway and Cannon Drive, directly across Fullerton from the Lincoln Park Zoo. Meetings are held the last Wednesday of each month, from 7:30 P.M. through 9:30 P.M. Parking is free on Cannon Drive. A plethora of CTA buses stop nearby.

Board of Directors Meeting

Are you interested in how the decisions are made that determine how the Chicago Herpetological Society runs? And would you like to have input into those decisions? If so, mark your calendar for the April 18 board meeting, to be held at the North Park Village Administration Building, 5801 North Pulaski Road, Chicago. To get there take the Edens Expressway, I-94, and exit at Peterson eastbound. Go a mile east to Pulaski, turn right and go south to the first traffic light. Turn left at the light into the North Park Village complex. At the entrance is a stop sign and a guardhouse. When you come to a second stop sign, the administration building is the large building ahead and to your left. There is a free parking lot behind the building.

The Chicago Turtle Club

The monthly meetings of the Chicago Turtle Club are informal; questions, children and animals are welcome. Meetings normally take place at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. Parking is free. For more info call Lisa Koester, (773) 508-0034, or visit the CTC website: <http://www.geocities.com/~chicagoturtle>.

HERP OF THE MONTH

Each monthly meeting will showcase a different herp. CHS members are urged to bring one specimen of the “Herp of the Month” to be judged against the entries from other CHS members. Prizes will be awarded to the top three winners. In March, bring **any salamander**. In April it will be **horned frogs (*Ceratophrys* spp.)** or **pyxie frogs (*Pyxicephalus adspersus*)**.

2003 SALAMANDER SAFARI

This year, the annual CHS Salamander Safari will be held on Saturday, March 29, 9 A.M. – 3 P.M., beginning at the Plum Creek Nature Center at Goodenow Grove Forest Preserve in Will County. Goodenow Grove is south of Crete, Illinois, 1¼ miles east of the intersection of Route 1 and Route 394 on Goodenow Road. If you need directions to get to this area, call Ron Humbert at (630) 620-7377, or Tom Anton at (847) 441-7536. From the nature center we will drive to other Forest Preserve District of Will County sites to search for amphibians. Species found or heard calling in previous inventories include blue-spotted salamanders, gray treefrogs, spring peepers, chorus frogs, bullfrogs, green frogs, and northern leopard frogs. Species not yet found but possibly occurring (or occurring at preserves nearby) include spotted salamanders, newts and wood frogs. As in past safaris, CHS members are encouraged to bring interesting amphibians from their personal collections for photography and display purposes. Coffee, juice and donuts will be provided, and a good time will be had by all!

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